REMARKS

Claims 14-24 and 30-37 were previously pending in this application. By this amendment, claims 16-22 are cancelled without prejudice or disclaimer. Claims 14 and 30 have been amended. No new claims have been added. As a result claims 14, 15, 23-34, and 30-37 are pending for examination with claims 14, 30, and 33 being independent claims. No new matter has been added.

Rejections Under 35 U.S.C. §§102/103

The Examiner has rejected claims 14-24 and 30-37 under 35 U.S.C. §102(b) as being anticipated by, or in the alternative under 35 U.S.C. §103(a) as being obvious over, the teaching of Sakashita et al. in GB 2130192 (GB '192).

Applicants disagree that claims 14-15, 23-24, and 30-37 are anticipated by GB '192.

GB '192 teaches a silicon/silicon-carbide article for use in semiconductor manufacture. Specifically, GB '192 teaches producing a silicon-coated silicon carbide article by granulating silicon carbide with carbon-based compounds; at least partially sintering the mixture to produce a carbon/silicon carbide ceramic matrix green body; and introducing melted silicon thereon to fill the pores and coat the surfaces thereof. The resultant article is comprised of a silicon carbide ceramic coated with non-porous silicon. Thus, the cited reference cannot teach a ceramic material having a pore size of at least about 15 μm. The Examiner states that GB '192 teaches a silicon impregnated porous silicon carbide and rejects claims 14-24 and 30-37 over the intermediate, before the body is impregnated by the silicon. Applicants submit that the reason that no pore size is disclosed in GB '192 is that there is, in fact, a great amount of excess carbon in the silicon carbide and that the pores originally existing in the molded body, disclosed on page 3, lines 3-6 of GB '192, would have been significantly diminished by the addition of the melted silicon. Again, the reference teaches a dense silicon-coated silicon carbide ceramic article. The intermediate remains a green body and is patentably distinct from the claims. Notably, the intermediate body is not recrystallized because it is processed below the recrystallization temperature of silicon carbide.

In contrast to the dense silicon carbide of GB '192, or the intermediate green body, the invention embodied in independent claims 14, 30, and 33 is directed to a recrystallized ceramic

article. The teaching of GB '192, therefore, fails to anticipate independent claims 14, 30, and 33 because it fails to disclose each and every limitation recited therein.

Dependent claims 15, 23-24, 31-32, and 34-37, which depend from claims 14, 30, and 33, respectively, are directed to further aspects of the invention and are likewise novel over the teaching of GB '192 for at least the same reasons discussed above.

The Examiner has also rejected claims 14-24 and 30-37 under 35 U.S.C. §103(a) as being obvious over the teaching of GB '192. Claims 16-22 have been cancelled, and the rejections thereto are now moot.

Applicants also disagree that claims 14, 30, and 33 would have been obvious over the teaching of GB '192. The rejection is improper because no prima facie case of obviousness has been established because GB '192 does not provide any teaching, suggestion, or motivation to produce an article comprising a recrystallized ceramic material as claimed. Further, any prima facie case of obviousness is rebutted because the proposed modification would not result in the invention as claimed.

In fact, GB '192 teaches away from any such motivation to modify because it explicitly teaches filling the pores of the molded body with the melted silicon to reduce impurity vaporization. (See page 3 of GB '192). Stated plainly, GB '192 teaches against pore formation by filling any pores with silicon and any modification thereto would directly contradict the express teaching of the reference. A porous structure would thus run contrary to such express objectives. Thus any alleged prima facie case of obviousness is rebutted. Therefore, claims 14, 30, and 33 would not have been obvious over the teaching of GB '192.

Likewise, dependent claims 15, 16, 23-24, 31-32, and 34-37 would not have been obvious over the teaching of GB '192 for at least the same reasons.

The Examiner has also rejected claims 30-37 under 35 U.S.C. §102(b) as being anticipated by, or in the alternative under 35 U.S.C. §103(a) as being obvious over, the teachings of Japanese document 10-228974 and 7-328360 (JP '974 and JP '360, respectively).

Applicants disagree that claims 30-37 are anticipated by the teachings of JP '974 or JP '360. Neither reference teaches a ceramic material having an impurity concentration that is less than 1 ppm as claimed in claim 30. Furthermore, neither reference actually teaches a network of pores as claimed in independent claim 33. The references, thus, do not teach each and every limitation of the independent claims 30 and 33.

771412.1

Applicants also disagree that claims 30-37 would have been obvious over the teachings of JP '974 or JP '360. The rejection is improper because no prima facie case of obviousness has been established that provides any teaching, suggestion, or motivation for an article comprising a ceramic material having an impurity less than 1 ppm. The references also fail to teach or suggest a ceramic article with a network of pores.

Any alleged prima facie case is rebutted because the references are directed to ceramic heaters, which do not require the purity levels claimed. The Examiner's assumption that the disclosed heaters have the claimed purity levels is incorrect because the processing of silicon carbide typically involves machinery, grinding, or other similar processes that necessarily introduce impurities. Limiting these impurities to the level claimed would contradict the objective of the cited references because the resultant heaters would be economically unattractive.

Dependent claims 31, 32, and 34-37 would not have been obvious over the teaching of JP '974 or JP '360 for at least the same reasons.

As such, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 14, 15, 23-24, and 30-37 under 35 U.S.C. §§ 102 and 103.

CONCLUSION

In view of the foregoing amendments and remarks, this application is now in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call Applicants' attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee

occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
Narendar et al., Applicants

By: _____

Elias Domingo, Reg. No. 52,827
Emily A. Berger, Reg. No. 51,459
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, MA 02142
Tel. (617) 395-7000

Date: December 1, 2005